Iron Metabolism

Hepcidin 25 ELISA

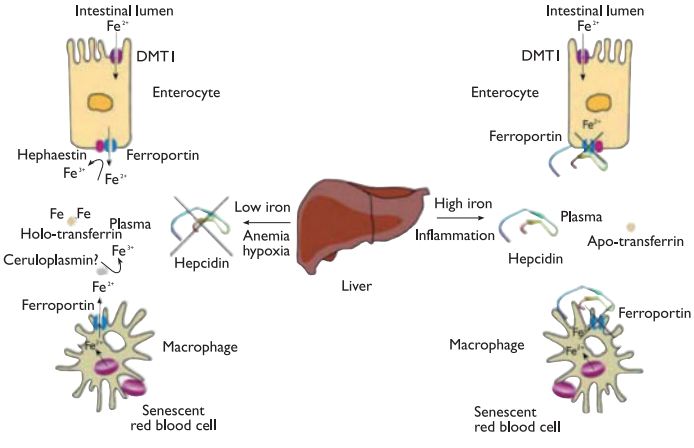
DRG

New
Hepcidin 25 bioactive ELISA

The gold standard in Hepcidin measurement

Benefits

- **Easy and straight forward assay procedure (no extraction or centrifugation)**
- **Total assay time < 2 hours**
- **All reagents ready to use**
- **Two controls inncluded in the kit**
- **High sensitivity**
- **Good correlation to SELDI-TOF-MS**



Clinical relevance

Hepcidin deficiency can result in hereditary hemochromatosis (body iron overload) which can progress to liver fibrosis and cirrhosis.
In contrast, defects in the Matripase-2 gene reduce Hepcidin synthesis resulting in extremely low transferrin saturation and low to normal ferritin concentrations. Furthermore, infections and inflammation lead to increased Hepcidin concentrations, causing iron deficiency that ultimately prevents growth of extracellular growing microorganisms.

Assay characteristics

- Assay Principle: Competitive ELISA
- Dynamic Range: 0.354 - 80 ng/mL of Hepcidin
- Total Assay Time: approx. 2 hours (60/30/20 min.)
- Sample Volume: 20 µl of Serum or Plasma (EDTA, Citrate, Heparin)
- Mean Intra Assay Precision: 5.12 %
- Mean Inter Assay Precision: 10.33 %

Ordering informations

Description	Code	Size
Hepcidin 25 bioactive ELISA	EIA-5258	96 Wells

Intended use

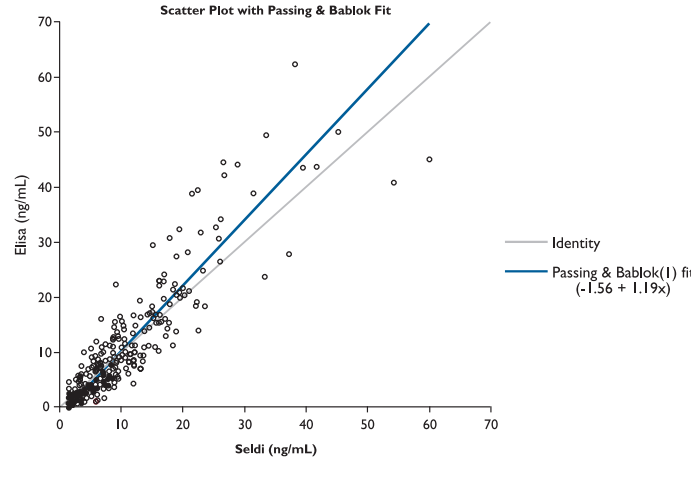
The **DRG Hepcidin 25 bioactive ELISA** is an enzyme immunoassay for the quantitative *in vitro diagnostic* measurement of Hepcidin in serum and plasma.

Background

Hepcidin is a 25-amino acid, cysteine-rich peptide hormone, produced by the liver. Hepcidin controls plasma iron levels by acting on the Fe-transporter ferroportin. This reduces the absorption of iron from the intestine and the release of iron in the macrophage and hepatocyte. Hepcidin is secreted in response to iron overload and inflammation, while its concentration decreases during iron depletion.

Method comparison

DRG Hepcidin 25 bioactive ELISA EIA-5258 showed good correlation to SELDI-TOF-MS (Surface-enhanced laser desorption/ionization -time-of-flight- mass spectrometry) (r=0.89)



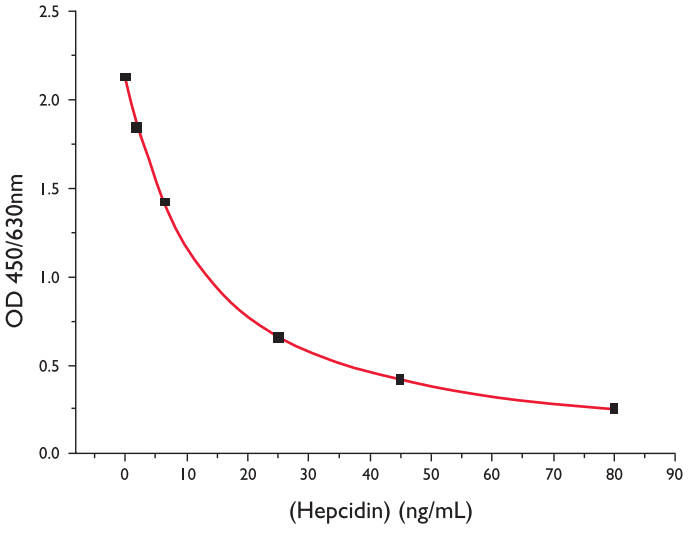
Hepcidin 25 bioactive ELISA

Principle of the test

The DRG Hepcidin bioactive ELISA Kit is a solid phase enzyme-linked immunosorbent assay (ELISA), based on the principle of competitive binding. The microtiter wells are coated with a polyclonal antibody directed towards an antigenic site of the Hepcidin molecule. Endogenous Hepcidin of a patient sample competes with a biotinylated Hepcidin conjugate for binding to the coated antibody. After incubation, the unbound conjugate is washed off. Bound biotinylated Hepcidin is detected by streptavidin-horseradish peroxidase complex. After addition of the substrate solution, the intensity of colour developed is inversely proportional to the concentration of Hepcidin in the patient sample.

Example of a typical standard curve

Standard	Optical Units (450 nm)
Standard 0 (0 ng/mL)	2.13
Standard 1 (2 ng/mL)	1.84
Standard 2 (6.5 ng/mL)	1.42
Standard 3 (25 ng/mL)	0.65
Standard 4 (45 ng/mL)	0.41
Standard 5 (80ng/mL)	0.25



Reproducibility

Sample	n	Mean (ng/mL)	CV (%)
1	20	66.4	3.3
2	20	63.5	9.9
3	20	10.1	2.1

Inter-Assay
The between assay variability is shown below:

Sample	n	Mean (ng/mL)	CV (%)
1	40	4.9	11.5
2	40	23.8	12.0
3	40	63.1	7.5

Linearity

		Sample 1	Sample 2	Sample 3
Concentration (ng/mL)		18.0	67.3	75.4
Average Recovery		99.1	96.3	96.8
Range of Recovery (%)	from	93.3	93.3	89.1
	to	111.1	99.9	102.7

Recovery

		Sample 1	Sample 2	Sample 3
Concentration		11.0	68.0	81.0
Average Recovery		103.2	98.9	100.6
Range of Recovery (%)	from	101.6	93.2	96.4
	to	104.8	105.5	103.3

Sensitivity

The analytical sensitivity of the DRG Hepcidin 25 bioactive ELISA is 0.35 ng/mL.

Dynamic range

The dynamic range of the DRG Hepcidin 25 bioactive ELISA is between 0.35 - 80 ng/mL.

Specificity

Hepcidin	100 %
Pro-Hepcidin	0.04 %

DRG ELISAS

Oncology

CYFRA 21-1
CA 72-4
CA 15-3
CA 125
CA 19-9
CEA
TPS
TPA
PSA
free PSA
NSE
Chromogranin

Gyn. Endocrinology

Estradiol
Progesterone
17a-OH Progesterone
DHEA-S
Testosterone
DHEA
Estrone
Androstendione
DHT
SHBG
DHEA
LH, FSH, PRL

Diabetes/Obesity

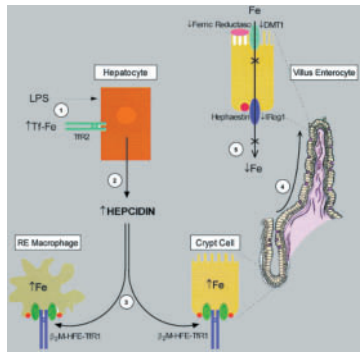
Insulin
C-Peptid
Proinsulin
Leptin

Iron Metabolism

Hepcidin
Pro-Hepcidin

Prenatal Supervision

PAPP-A
Free ß HCG
AFP
Free Estriol
HCG
HPL
PLGF



Saliva Diagnostics

Cortisol
Estradiol
Testosterone
DHEA
Progesterone
17a-OH Progesterone

New

Bone Metabolism

25-OH Vitamin D Total

New

Hypertension

Renin
Aldosterone

ELISAS that perform

DRG develops and manufactures ELISAS for use in clinical and research laboratories.
The experience of our production and management team guarantees to provide high quality products, competitive prices and excellent customer service.

DRG works to DIN EN ISO 9001:2000, ISO 13485:2003 and ISO 13485:2003 under CMDCAS standard, certified by TÜV Rheinland Product Safety GmbH, an indication of our commitment to customer service, quality control and improved health care.

DRG Diagnostics

DRG Instruments GmbH, founded in 1973 by Dr. Geacintov, subsidiary of DRG Intl. Inc., USA, is a diagnostics manufacturer of ELISAS.
The DRG Group operates through a network of DRG subsidiaries in Germany, Poland, Russia and the Czech Republic and through distributors worldwide.

EN ISO 9001 ISO 13485 Certified Company

www.tuv.com TÜVRheinland ID:0000022854

DRG Subsidiaries

Czech Republic
DRG spol. s.r.o.,
Brno

China
DRG Intl. China,
Beijing

Poland
DRG MedTek South Poland,
Gliwice

DRG MedTek Sp. zo.o.,
Warszawa

Russia
DRG TechSystems,
Moscow

DRG Biomed 0.0.0.,
St. Petersburg

DRG Instruments GmbH, Germany
Frauenbergstraße 18
D-35039 Marburg
Tel. +49 (0) 64 21/17 00 0,
Fax +49 (0) 64 21/17 00 50
Internet: www.drg-diagnostics.de
E-mail: drg@drg-diagnostics.de

Distributed by

DRG International Inc. USA
1167 U.S. Highway 22 East
Mountainside, N.J. 07092 USA
Phone: +1 (908) 233-2079
Fax +1 (908) 233-0758
Internet: www.drg-international.com
E-mail: corp@drg-international.com

07/12